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# United States Circuit Court of Appeals.

NINTH CIRCUIT.

CONSOLIDATED PIEDMONT CABLE COMPANY,

*Appellant,*

VS.

PACIFIC CABLE RAILWAY COMPANY,

*Appellee.*

No. 55.

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## BRIEF OF APPELLEE.

WM. F. BOOTH,

*Solicitor and Counsel for Appellee.*

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UNITED STATES CIRCUIT COURT OF APPEALS  
FOR THE NINTH CIRCUIT.

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CONSOLIDATED PIEDMONT CABLE COMPANY,  
RESPONDENT AND APPELLANT,  
vs.  
PACIFIC CABLE RAILWAY COMPANY,  
COMPLAINANT AND APPELLEE.

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BRIEF OF APPELLEE.

This is an appeal from the interlocutory decree of the Circuit Court of the United States for the Northern District of California, adjudging infringement of both claims of the letters patent sued on, awarding an injunction and referring the case to the Master in Chancery for an accounting, all in usual form. The first and third assignments of error made by appellant herein as they grow out of the decision of the Circuit Court holding infringement of claim one of the patent sued on, relate to the same matter. Likewise the second and fourth assignments of error relate to the same matter as they grow out of the decision holding infringement of claim two of the patent sued on. All four assignments being substantially the same in scope can be answered together.

A copy of the patent sued on is found at page 37 of the Record, facing which page is the drawing of said patent. The specification continues on pages 38 and 39 and the two claims of the patent sued on are on page 39. To avoid confusion it may be stated that the drawing facing page 39, does not belong to the patent sued on, but is the drawing, as the head lines show, of a patent to Wm. Eppelsheimer and belongs to the specification of Respondents Exhibit 1, beginning on the lower portion of page 39.

*Patent in Suit.*

Before describing the inventions disclosed by the patent it will be well to give an understanding of what is meant by a tension apparatus in the art to which the patent appertains.

A cable railway as now known is one in which the cars are drawn along by a suitable connection, called a "grip," with a traveling cable, which is located within a tube or tunnel. This

cable is an endless one and is driven by means of large drums located in the power-house and caused to rotate by suitable engines. The cable passes from the tube or tunnel in the street into the power-house, and after passing around the driving drums continues on its course to the street and into the tube or tunnel again.

The cable is made of wire and is several miles in length. It must be kept taut in the engine-house in order to obtain the necessary frictional contact on the driving drums, and to do this all slack must be constantly taken up. The slack of the cable is not a constant factor. It increases by reason of stretching, and in a long cable the stretch and consequent elongation is very considerable. Now a tension apparatus is a device for the purpose of keeping the cable taut, by constantly taking up the slack due to stretching, and unequal strains. It is to this class of apparatus that the inventions of the patent in suit belong.

The inventor states that he has invented an "Improved Tension Apparatus for Cable Railways," and that "it consists in an improved means for taking up the slack of the cable as it gradually elongates by use."

In order to show clearly wherein his apparatus is an improved one, he first describes the necessity for a tension device and then explains the method and device in use at and before the time he made his improvement, whereby he reaches the conclusion that his apparatus is an improvement over the old form, and wherein it is such improvement. We quote from the specification as follows:

"In the construction of cable railways in which cars are propelled upon a track by means of an endless cable moving in a tube or tunnel beneath the surface of the ground and connected with the cars by means of gripes upon the latter, means must be provided to take up or compensate for the elongation of the cable which takes place with use, and when the cables are of considerable length this elongation is so considerable that when ordinary means are employed they are insufficient for the work, and the cable must be cut and a portion taken out, or it must be passed one or more times around a drum, to take it up.

"The usual method for keeping a tension upon the cable is to pass it around large pulleys at one or both ends, and these pulleys are mounted upon trucks. A chain passes from the rear end of the truck over a stationary pulley, and is attached to a heavy weight within a pit, and this produces the required tension. The cable soon stretches, however, so that the greatest depth of pit which can be conveniently used within a roadway is insufficient for the sinking of the weight, and

“ the cable must be taken up either by removing a portion, or  
 “ by taking one or more turns around the drum or pulley.  
 “ This process must soon be repeated, and causes considerable  
 “ delay and inconvenience.

“ My invention is designed to provide a perpetual compensa-  
 “ tor and tension apparatus, which may be adjusted without  
 “ stoppage or delay.”

The specification then describes the apparatus by reference to the drawing. By looking at this drawing, and at the same time examining the model, “ Complainant’s Exhibit B,” the Court will readily understand the following description:

The cable is designated by *B*, in the drawing, and is represented by the string in the model, which passes between the two large pulleys. One of these pulleys corresponds to the pulley *A*, of the drawings, and the other is placed in the model for the purpose of showing one of the driving drums. This last named pulley is made movable in the model in order to get a slack on the string which, in a road, would be had by the cable stretching; but in the model, as the string will not stretch, the slack is had by moving the second pulley, and the operation of the apparatus can thus be carried out in the model.

The pulley *A*, is carried by a car *C*, which has wheels *D*, whereby said car and the pulley *A*, may be drawn back, and when so moved will tighten the cable. This drawing back force is applied by means of a suspended weight *H*, connected with the car *C*, by a chain *F*, this chain passing over and being guided by a pulley *G*. Now, it will be seen that the weight constantly pulls the car *C* back and keeps the cable taut. As the cable stretches and elongates the weight pulls the car back, and this will continue until the weight reaches the bottom of the pit in which it hangs. Then, if the cable continues to stretch, its slack cannot be taken up, for the weight will not pull the car back any farther, because it has ceased to act on the car, for it rests in the bottom of the pit.

The device thus far described, the Court will recognize as that which the inventor has described as the usual method in use before his invention, and to make this old method further operative when it has reached this point, one of three things must be done, namely: 1st, cut the cable, take out a piece and splice the severed ends, whereby the cable is shortened; 2d, pass the cable one or more times around the pulley *A*; or, 3d, dig a pit deep enough to allow the weight to descend sufficiently far to take up any possible slack which might take place. The objection to the first two methods are stated to be inconvenience and delay, and the objection to the third is impracticability, These courses and their attendant objections are avoided by the improved apparatus of the patent, the description of which we will now continue.

The wheels *D*, of car *C*, rest and travel upon rails or timbers *E*, which are united to and form part of a frame-work *I*, and the pulley *G* is carried by this frame-work. The frame-work *I*, with its rails *E*, is itself movable independently of the car *C*, its movement being effected upon the long, stationary timbers *J*, upon which it rests. The frame work *I*, has hook pawls *L*, which engage the teeth of racks *K*, on timbers *J*. A block *M*, is secured to the rear end of the frame-work *I*, and another block is secured to the solid masonry or fixed wall at the end of the apparatus. Between these two blocks passes a rope *P*, the free end of which is carried forwardly to and is adapted to be wound when necessary upon a gipsy or windlass *O*, on the shaft of pulley *A*. Now when the car *C*, has been pulled back as far as the weight *H* will pull it before reaching the bottom of the pit in which it is suspended, the frame-work *I*, which up to that time has been stationary and held fixed by its pawls, is pulled back bodily, moving on the timbers *J*. This movement of the frame-work, leaves car *C*, in the same position, but it carries pulley *G* back, and as the weight-suspending chain passes over said pulley, it is evident that the car *C*, being stationary and the pulley *G*, moving backwardly along the length of the chain *F*, the weight *H* will be raised up again. Then the frame-work *I*, is fixed in position by its pawls and the weight will gradually pull the car *C* back as the cable continues to stretch until said weight approaches the bottom of the pit again. Then once more it is raised by pulling the frame-work *I*, back and the initial operation is repeated. This movement of the frame-work *I*, is effected whenever required by catching hold of the end of rope *P*, which normally encircles loosely the gipsy on the shaft of pulley *A*. This tightens the rope on the gipsy and thus the power of pulley *A*, is transmitted through rope *P*, and the blocks to draw back the frame-work *I*.

Therefore by this apparatus there is no need of cutting the cable, no need of winding it more times about the drum, and no need of a deep pit. Thus the objections to the old method are overcome.

The patent has two claims, as follows:

“1. A tension and compensating apparatus for railway-cables, consisting of the cable-pulley *A*, having its axis journaled upon the movable car *C*, and the chains *F*, and weight *H*, in combination with the rails or timbers *E* upon which the car travels, mounted upon a frame *I* which moves upon a secondary track *J*, substantially as and for the purpose herein described.”

“2. The car *C* moving upon the rails *E*, and supporting the cable-pulley *A*, the weight *H*, and chain *F*, and the rails *E*,

“ moving upon a secondary tramway *J*, in combination with the operating tackle and the holding racks and pawls, substantially as herein described.”

The Circuit Court found that both claims were infringed by appellant.

### *Infringing Apparatus.*

The tension device constructed and used by the appellant is illustrated by the model “Exhibit C.” It consists of a pulley over which the cable passes. This pulley is mounted upon a car having wheels which rest and travel upon long stationary tracks. A second car is mounted upon these same tracks back of the first car and this second car carries a pulley, over which passes a chain, the forward end of which is connected with the rear end of the first car, and its other end carries a suspended weight. The two cars are united by heavy rods, which are made fast in the rear end of the first car and pass freely through the second car, and these rods have bumpers or cushions. The second car has hook pawls which engage rack pins on the fixed tracks. On the rear end of the second car is a block, and on a fixed beam at the end of the apparatus is another block. Between these blocks passes a rope, the free end of which is carried forwardly to a gipsy or windlass on the pulley shaft of the first car. The operation is as follows: The suspended weight pulls back constantly on the first car and takes up the slack. The rods of the car slip back through the second car. When the weight reaches the bottom of the pit, it cannot pull the car back any farther, and under the old method in use prior to appellee’s patent that would be the end of the operation and the cable would have to be cut and respliced, or be carried around the driver more times, in either case causing a stoppage of the cable and consequent delay. But without stopping the cable at all, as soon as the weight has about reached the bottom of the pit, the rope is tightened on the windlass or gipsy, the second car at the same time is released by its backwardly slipping pawls moving over the rack pins, and thereupon said second car is pulled back, slipping over the rods of the first car. This has the effect, as its pulley travels back under the length of the weight chain, of raising said weight to its highest position again. Then the second car is again secured by its pawls, and the weight is ready to act on the first car to continue taking up the slack. When required the operation is repeated.

Comparing the principle and mode of operation of the appellee’s apparatus with the principle and mode of operation of the appellant’s, the Court will see that they are absolutely identical. This is proven by both witnesses, and is conceded. Identity is present not merely in general result, but in the several steps

which lead to the result. These steps are: 1st. Starting the operation with the cable taut, the main pulley car drawn forward to its limit, and the weight raised to its highest position, whereby as the cable stretches the weight descends, pulling back the main or cable pulley car, and taking up the slack constantly, until the car is drawn back to its first limit, and the weight is at or near the bottom of the pit. 2d. Tightening the rope on the gypsy and pulling the chain pulley car or frame-work back away from the main or cable pulley car, whereby the weight is raised again to its upper position, and securing said framework or second car. 3d. Repeating the first step. And 4th. Repeating the second step. (Bell, X.-Q. 51, page 24 of Record.)

The final result is the perpetual compensation and take-up of the cable slack without stopping the cable.

This demonstration alone points to infringement. The Court in *Sewall vs. Jones*, 91 U. S., on page 184, says: "In an action for infringement, the first question is whether the machine used by the defendant is substantially, in its principle and mode of operation, like the plaintiff's. If so, it is an infringement to use it."

It is thus demonstrated that the appellant's apparatus contains the improvement of the patent, as far as it relates to a general apparatus, a mode of operation of that apparatus and a result distinguishable from the prior practice, and this being true, we may certainly expect to find a great similarity in the parts and their relative arrangement, so that the idea of means will be found substantially identical in the two devices.

Comparison shows:

1st. That in both there is a movable car which carries the pulley over which the cable passes, and by the pulling back strain on which the cable is kept taut.

2d. That in both there is a suspended weight, and chain connecting the weight with the movable car whereby said car is constantly pulled back.

3d. That in both there is a movable part (call it the framework *E, I*, of the patent or the second car of the appellant's apparatus), the movement of which is independent of the cable pulley car, said frame-work or second car carrying a pulley over which the weight-suspended chain passes.

4th. That in both there are main fixed tracks upon which the movable frame-work or second car travels, and to which it is secured fixedly between the intervals of movement.

5th. That in both there are means for pulling said framework back, at proper times, to effect the elevation of the weight.

Now, let us see wherein these parts differ in the two devices. It may be presumed that some difference exists, else there would be no contention on the question of infringement. An in-

fringing machine is seldom exactly like the machine infringed. The Courts have often noticed and mentioned this. In *Imhaeuser vs. Buerk*, 101 U. S., on page 663, the Court says: "Differences between the two arrangements undoubtedly exist, as is usually the case where one is borrowed from the other without consent."

In the present case, in the appellee's apparatus, the cable pulley car *A*, is placed on top of the chain pulley frame-work or car, and the latter is between said cable pulley car and the main fixed tracks. This gives rise to the language of the patent, calling the main fixed track "secondary tracks," because the top rails *E*, of the movable frame-work *E*, *I*, serve as tracks to carry the cable pulley car *C*. In the appellant's apparatus, both cars are placed on the main fixed tracks, and the two are connected by the rods.

From the foregoing, the Court will fully understand the two devices, their mode of operation, their similarities, and their differences.

It remains now to consider the question of infringement. There are three aspects of this question, namely: 1st, the rule of combination and its accompanying doctrine of mechanical equivalents; 2d, the doctrine of diversity of form and arrangement; and, 3d, the rule of substantial identity as applied to a complete machine organism or apparatus. These will be considered in the order named.

## I.

Combination: Under this rule the claims of the patent may properly be considered in two lights. The first calls for a construction of the claims dependent strictly on the very terms employed, and the second permits a construction which, while still in strict accord with the language, is based upon what that language plainly means.

Considering the claims in the first light, it will be found that claim one of the patent sets forth an invention consisting of the following elements:

- 1st. A cable pulley *A*.
- 2d. A movable car *C*, carrying the cable pulley.
- 3d. The chains *F*.
- 4th. The weight *H*.
- 5th. The rails or timbers *E*.
- 6th. The frame *I*.
- 7th. The track *J*, upon which frame *I* moves.

The elementary rule of avoiding a combination by omitting one or more of its elements is qualified by the rule of equivalence, for if one of the seven elements be omitted and in place thereof another be substituted, it may or may not make the two in-

ventions the same, according as the substituted element may or may not have the attributes of mechanical equivalence. These attributes are that the substituted element shall be an old one, shall perform substantially the same function in substantially the same way, and shall be known at the time of the patented invention to be a substitute for the omitted element.

Comparing the appellant's apparatus with the invention of the first claim of the patent sued on we find in it:

- 1st. The cable pulley *A*.
- 2d. The movable car upon which the cable pulley is mounted.
- 3d. The chains *F*.
- 4th. The weight *H*.
- 5th. The rods connecting the movable cable pulley car with the second car, and that portion of the main fixed track on which said cable pulley car is supported.
- 6th. The second car.
- 7th. The main fixed tracks on which the second car travels.

In construction, relative arrangement and mode of operation, it is plain that the first four elements of the two combinations are identical. So also with the 7th element. The 6th element of each is also identical in that it is in both a frame-work, movable on the main tracks and carrying the chain pulley and weight, and operating to raise the weight in the same way.

In the 5th element alone we find that dissimilarity upon which appellant's contention is based, and to it we may apply the rule of mechanical equivalence. In the patented combination the omitted element is the rails or timbers *E*. What are the functions of this element in the combination? They are to form stops to limit the movement of the cable pulley car, to form a support therefor, and to connect the cable pulley car with the movable frame-work. The drawings show both the back and front stops. The cable pulley car moves between these stops. The substituted element in appellant's combination is a composite one, and consist of the rods connecting the two cars and that portion of the main fixed tracks on which the cable pulley car is supported. The rods form stops for the cable pulley car. They are carried by the second car, and form the connection between the two. The portion of the main tracks on which the cable pulley car travels form the support for said car. (See appellant's witness Bell's testimony, X.-Q. 35 to 47 inclusive, pages 23 and 24 of Record.)

A sliding rod connection is an old thing, and as a means of connecting two parts to form stops for the movement of one part, such connection was known at the date of complainant's patent as a substitute for such a connection as is shown in the patent, consisting of the bumpers by which the movements of

the cars are limited. Thus, in the most limited and restricted view which can be taken of appellee's first claim, it is demonstrated that whatever omission the appellant has made has been supplied by a substituted element which is the mechanical equivalent of the omitted part. For mechanical equivalence see *Gill vs. Wells*, 22 Wall., 1 (page 28).

Applying to the second claim of the patent the same reasoning, we find that the invention consists of the following elements:

- 1st. The car *C*, supporting the cable pulley.
- 2d. The weight *H*.
- 3d. The chain *F*.
- 4th. The rails *E*.
- 5th. The secondary tramway *J*.
- 6th. The operating tackle.
- 7th. The holding racks.
- 8th. The pawls.

In the appellant's apparatus is found in combination all these elements with the exception of rails *E*, for which are substituted the connecting rods and that portion of the main tracks on which the cable pulley car is supported. These parts as a composite element serve the same purpose, in the same way, namely, the proper connection between the cable pulley car and the movable second car, and the support for the former. (See appellant's witness Bell's testimony, X.-Q. 35 to 47 inclusive, pages 23 and 24 of Record.) These parts being similar in use are equivalent, whatever their individual attributes may be. (Robinson on Patents, Vol. 1, Sec. 249.) That we are justified in finding equivalence for a single element in a substituted compound or composite element we quote from Robinson on Patents, Vol. 1, Sec. 252:

“Equivalence not dependent on the number of substituted parts. For this reason any single act or substance may be an equivalent for two or more already used in the invention; and on the contrary, two or more acts or substances may be together capable of substitution for, and so become equivalents of, a single one. In both these cases neither member of the group of elements is a perfect substitute for the one element whose function they unitedly perform, although that single element is an entire equivalent for each as well as all the members of the substituted group, yet, as in each case precisely the same service must be rendered and the same purposes fulfilled, both by the single element and by the group of elements, in spite of the numerical diversity and the want of exact separate correspondence, the essential characteristics of equivalence are still preserved. The same is true of every other possible diversity; if it does not affect the use of the

“ acts or substances in the invention, it has no bearing on the  
 “ question of equivalence, and furnishes no criterion of inter-  
 “ changeability.”

In *Stobridge vs. Lindsay*, 6 Fed. Rep., 510, where the defendant sought to evade infringement by separating into two parts what the patent claimed as one, the Court said: “The change is but  
 “ colorable. Although cast in two pieces, yet when put to-  
 “ gether for use, the hopper and grinding shell are substan-  
 “ tially and for all practical purposes formed into a single  
 “ piece.”

And the Court then went on to say:

“ If authority is needed for the proposition that a patent  
 “ cannot be defeated by dividing the patented device into two  
 “ parts which, when combined, produce the same result in  
 “ substantially the same way, it will be found in *Wheeler vs.*  
 “ *Clipper Mower and Reaper Company* (6 Fish., 2).”

In this latter case the hinged bar of the patented combination was omitted and a curved plate and cross-bar were substituted. These, the Court said, were certainly unlike the hinged bar in form and appearance, but held that they did the same thing in the same way, and were obviously the mechanical equivalent of the hinged bar. The Court said: “A patent for  
 “ a device cannot be avoided by dividing it into two parts  
 “ which, when combined, produce the same result in substan-  
 “ tially the same way.”

If identity between the two combinations need a plainer demonstration, it is to be found in the second view of the patented combinations, which view we shall show does not require the application of the doctrine of mechanical equivalents for it can be proven that appellant has used the identical combinations.

This view requires an analysis of the elements of the combinations, not only in view of the language and designating letters used, but also in respect to what that language means. No difficulty arises in claim one from the element of the cable pulley, nor from the movable car *C*, nor from the chains *F*, nor weight *H*. The remaining elements are the rails or timbers *E*, frame *I*, and secondary track *J*. It makes no difference what things are called; the question is what they are. Now, what is the so-called element *E*? It is part of the frame *I*. Not a separable part, but as much an integral part as any of the other members of frame *I*. This frame is made up of longitudinal and cross-timbers. The construction shown makes the rails *E* the top longitudinal timbers of the frame. The frame slides on the bottom longitudinal timbers. Single wide longitudinal timbers would be the same thing, for on the lower surfaces of these, the frame could slide and on the upper surfaces the car

*C* could operate. In short, the two so-called elements, *E* and *I*, of the claim constitute but a single thing, namely: a sliding or movable frame. (Bell's Testimony, X.-Q's. 1 and 2, page 20.) They are absolutely indivisible, and may as well be designated as the frame *E, I*, as by the language of the claim, "rails or timbers *E*, and frame *I*." There can be no doubt as to the *oneness* of these elements, and as such they enter into and form but a single element of the combination.

*This single element, this movable frame E, I, finds its counterpart in and is identical with the second car of the appellant's device.* Each carries the chain pulley, each raises the weight by its retractive movement, each is connected with the cable pulley car in such a manner that their respective movements are limited each by the other, and each is mounted and travels upon the main tracks. (Bell, pages 20-24.) They are identical in object, function, mode of operation and result. Appellant contends that no rails or timbers *E* are found in its apparatus. This is but a quibble. If, as has been shown, the rails or timbers *E* are part of the movable frame-work *E, I*, and said frame-work is identical with appellant's second car, then the only difference is that in the patented construction the side timbers of the frame-work *E, I*, have a space between them, while the side timbers of appellant's second car are single pieces. This difference cannot seriously be considered as avoiding infringement, and this view must dispose of appellant's contention in this respect. But appellant contends in addition to this, that it has not in its apparatus the element called "secondary tracks" in the claim of the patent. To this we have but to apply the same test of inquiring what are these "secondary tracks?" *They are the main tracks J, and nothing else.* They find their counterpart in the main tracks of appellant's device. In both devices these tracks extend the length of the apparatus. They support all the movable parts: the movable chain-pulley cars travel on them and they have the same racks to hold these cars. Appellant's contention in this regard is but a play upon words. They are called "secondary" tracks in the patent because in that device the top of frame-work *E, I*, serves as tracks for car *C*, and this results in the only difference at all between the two devices, which difference, plainly stated, is that in the patented device, the car *C* moves directly on the car or frame-work *E, I*, and only indirectly over the main tracks, and in appellant's device the car *C* moves directly on the main tracks.

This is the result and outcome of the whole defense; its effect we will subsequently consider, but in the present consideration of the rule of combination it is plain that infringement is not avoided, for in appellant's apparatus every element

of the claim is found, and this is true even without invoking the doctrine of equivalents.

The second claim of the patent can similarly be analyzed and construed. It is even plainer than in the first claim what is meant by the rails *E*, for in the second claim, no mention is made at all of frame *I*, but the whole frame is regarded as "rails *E*," for they are spoken of as moving on the "secondary tramway *J*."

## II.

### *Diversity of Form and Arrangement.*

In the previous view we have considered the strictest rule of interpretation which can be applied to the claims of the patent sued on.

We now come to that view of the infringement growing out of the rule relating to diversity of form and arrangement: Under this rule we will show that appellant's tension apparatus is one which differs from the device of the patent, both as described and claimed, *in form and arrangement merely*, and that as form and arrangement are not of the essence of the patent, the diversity in these particulars in the appellant's device does not relieve it of infringement.

What the appellant has done is to let the cable pulley car rest and travel directly upon the main fixed tracks, instead of through the intervention of the movable frame-work *I*. This is in effect simply cutting off the forward end of this framework and dropping the car *C* down upon the lower tracks. The support for the car *C* is changed only in what supports it. Bell R.-X.-Q's. 1-3, page 34. In making this change no new mode of operation, no new function, no new result are had; these remain precisely the same as in the patented apparatus. The invention is not changed or altered in the slightest. Now as this change would be ineffective without preserving some proper connection between the cable pulley car and the chain pulley car, a connection is made between the two by means of the rods which forms the limiting stops. Again in this change, no new mode of operation, no new function, no new result are had, nor is the invention affected. These changes are what the courts have often termed "colorable evasions."

Robinson on Patents, Vol. I, Sec. 242, considering diversity of arrangement, after referring to those devices where a rearrangement may produce a diversity in substance, says: "But when, notwithstanding differences of location or arrangement, the function and the mode of operation are in all respects the same, the diversity is only formal, and the character of the invention is not changed."

The cable pulley car *C* of appellant's device, in its new or changed location on the main tracks, and with relation to the chain pulley car, is not different in function nor in mode of operation, nor in result from its operation, function and result, in the patented device.

In *Adams vs. Joliet Manufacturing Company*, 3 Bann. & A., 1, the Court said: "A change of location of a part of a combination, where there is no new function performed by the changed member in its new location, will not evade a patent."

This was approved in *Knox vs. The Great Western Quicksilver Mining Company*, 6 Sawyer, 430. In that case Judge Sawyer quoted the following from the Master's report: "It has substantially the same combination of the same parts and the same number of parts, all operating in substantially the same way, and producing the same results, the only change being in the place of the outlet vapor-flue." Continuing, the Court said: "In this case the changed part performs no new function. It operates in precisely the same way and accomplishes the same result in the same mode in the combination."

### III.

The third consideration is that of substantial identity, and is capable of conclusively demonstrating infringement in this case. The rule or doctrine now to be considered, while bearing closely upon the rule of combination and that of mere diversity in form and arrangement, is yet distinguishable from both in that under it, the Court is entitled to first determine what the invention is that is described and claimed by the patent; then what the device is that is said to be an infringement; and, finally, upon comparison, to determine the presence or absence of patentable identity.

The Supreme Court has thus enunciated this doctrine. In *Machine Co. vs. Murphy*, 97 U. S., 120, on page 125, the Court says:

"Except where form is of the essence of the invention, it has but little weight in the decision of such an issue, the correct rule being that in determining the question of infringement the Court or jury, as the case may be, are not to judge about similarities or differences by the names of things, but are to look at the machines, or their several devices or elements, in the *light of what they do*, or what office or function they perform, and how they perform it, and to find that one thing is *substantially the same as another* if it performs substantially the *same function* in substantially the *same way* to obtain the *same result*—always bearing in mind that devices

“ in a patented machine are different, in the sense of the patent law, when they perform different functions in a different way, or produce a substantially different result. Nor is it safe to give much heed to the fact that the corresponding device in two machines organized to accomplish the same result is different in shape or form, the one from the other, as it is necessary in every such investigation to look at the mode of operation, or the way the device works, and at the result, as well as at the means by which the result is attained.”

In the patent in suit there is described an apparatus which is stated to be an improvement in the art, in that by its use the slack of the cable can be taken up and the cable kept taut under all conditions and between all limits of stretching, and this, too, while the cable is in operation. The apparatus is enabled to effect this result by the addition to the cable pulley car and pull-back weight of the old apparatus, *of an independently movable frame, so arranged with relation to the cable pulley car and the weight that by its retrogression it will successively raise the weight to an operative position, thereby providing for a continuance of the effect of the weight.*

The appellant uses an apparatus in which there is added to the old cable pulley car and weight a second car, independently movable and arranged with relation to the first car and to the weight in such a manner that by its back movement it will successively raise the weight to an operative position to continue its effect. In the patented apparatus the cable pulley car is on top of the independently movable frame, and is limited by stops thereon, while in the appellant's apparatus the cable pulley car is on the main tracks, and is limited by rods connecting it with the second car.

The appellant contends that this difference avoids infringement, because the patented invention is one which must be confined to an apparatus in which the cable pulley car is mounted on top of the sliding frame, and the difference therefore becomes an essential one. But the appellant has not shown a state of things which makes it at all necessary for the Court to find that the patented invention is dependent upon the position of the cable pulley car, with respect to the independently movable chain pulley car, for there is in the prior art no such thing anywhere to be found as the movable chain pulley car in this or in any other relation to the cable pulley car. If, for example, such a device as appellant's were old at the date of appellee's patent, then said patent would not be an improvement in the matters in which its specification states it to be, but would be novel merely *in changing the relative positions of the two cars*, and therefore if a third device differing in that arrangement were made, it could not be an infringement of the

patent, because it would differ in the very thing which gave to the patent its only novelty. But such is not the case. The prior art shows only the old apparatus, admitted directly in the patent sued on, and in addition to this a theoretical and impractical device, involving no chain pulley car, and from which both appellee's and appellant's devices differ essentially and radically *in precisely the same respects*, as will presently appear. Appellee's patentee was the first to add to the old apparatus then in use, the independently movable chain pulley car. Appellant should not be permitted by an *immaterial, objectless* change in a small detail of arrangement while still retaining the substance, to reap the benefit of complainant's invention. It cannot be permitted to do this under the rule in *Machine Co. vs. Murphy (ante)*. Let us closely fit this rule.

Form is not of the essence of this invention. The specification does not state that the particular arrangement is necessary to effect the desired result. Dissimilarity in the names applied to the two devices are not to be regarded. It is not material that in the patent the part *I* is stated to be a framework, while in the appellant's device it is a car; nor that in the patent the term "secondary" is applied to the main tracks, thereby implying other tracks, such as rails *E*, while in the appellant's device there are only main tracks and connecting rods. But these things must be looked at "in the light of what they do," or in the light of "what office or function they perform, and how they perform it." What they do is precisely the same in both devices, their office or function is the same, and they perform it in the same way. No change in result, no change in mode of operation, no change in function follows the change in arrangement. Therefore they are substantially the same things, because they "perform substantially the same function in substantially the same way to obtain the same result." This doctrine of substantial identity has been variously stated. Robinson lays great stress upon the "idea of means." Sec. 893, Vol. 3, concludes with, "Identity exists, therefore, " with reference to the question of infringement, if the idea of " means protected by the patent is found *substantially existing* " in the invention practised by the alleged infringer."

Again, in Section 894: " Identity in the ideas of means subsists where the compared inventions perform the same functions by the same modes of operation. If the effects produced " are substantially different, there is no identity. If the " effects are the same and the functions are essentially distinct, there is no identity. If the functions are the same " and the modes of operation by which they are performed are " radically unlike, there is no identity. Contrariwise, where " the effects are identical, the functions identical, and the

“ modes of operation identical, the idea embodied in the two inventions must also be identical. Identity being thus established, all variations in shape, size, capacity, arrangement, and materials, become unimportant.”

The case of *Ives vs. Hamilton*, 92 U. S., 426, is in point. The patent sued on was for an improvement in sawmills, and the claim was for a certain combination by which a peculiar movement was given to the saw. It was urged that there was no infringement, because one of the elements of the combination was omitted, and that the substituted element was not an equivalent. The combination sued on included certain curved guides at the upper end of the saw, and an attachment of its lower end with the pitman at a point above the cross-head.

The infringing machine omitted the curved guides, using certain crooked guides instead, and made the attachment with the pitman at a point below the cross-head.

The Court, on page 430, says: “ The question in the case, therefore, is: whether the defendants use the same or equivalent means; that is, the same, or substantially *the same combination* of devices.” It held affirmatively on this question, deciding that the crooked guides above performed precisely the same offices as the curved guides, and that the change in the point of attachment with the pitman was not a change in principle. On page 431 the Court concludes this point as follows:

“ The combination of the two things in the defendants’ mill, namely: the crooked guides above, and the connection of the saw with the pitman below at a point removed from its center of motion (both being calculated to give to the saw the precise rocking or vibratory motion desired), is a close copy of the plaintiff’s invention; quite as close as is usually made by those who attempt to evade a patent, whilst *they seek to use the substance of the invention.*”

In the present case, the appellant has made only such changes in the form and arrangement of parts, as will give color to its attempted evasion of the patent, while still permitting it to use the *substance of the invention.*

No better elucidation of the law of patentable identity as regards infringement can be found than in the instructions given to the jury by Judge Sawyer in March, 1871, in *Curter vs. Baker*, 1 Sawyer, 512. This case is also reported in 4 Fisher, 404. We quote from page 407 of the report in Fisher:

“ In the language of another, ‘An infringement takes place whenever a party avails himself of the invention of the patentee, without *such variation as will constitute a new discovery.* \* \* \* An infringement involves *substantial identity*, whether that identity is described by the terms ‘the same principle,’ ‘same *modus operandi*,’ or any other.

“ ‘ It is a copy of the thing described in the specifications of  
 “ ‘ the patentee, either without variation, or with *only such*  
 “ ‘ *variations as are consistent with its being in substance the same*  
 “ ‘ *thing.* No certain, definite rule can be stated by which to  
 “ ‘ determine unerringly, in every case, what will amount to  
 “ ‘ substantial identity. The jury, guided by general principles,  
 “ ‘ must determine each case upon its own circumstances. If,  
 “ ‘ however, ‘ the invention of the patentee be a machine, or an  
 “ ‘ improvement on a machine, it will be infringed by a  
 “ ‘ machine which incorporates in its structure and operation  
 “ ‘ the substance of the invention; that is, by an arrangement  
 “ ‘ of its mechanism, which perform the same service, or pro-  
 “ ‘ duces the same effect, in the same, or substantially the same  
 “ ‘ way.’ The question is, whether the given effect is produced  
 “ ‘ substantially by the same mode of operation, and the same  
 “ ‘ combination of powers and devices in both machines; mere  
 “ ‘ colorable, or evasive differences cannot defeat the right of  
 “ ‘ the original inventor. The inquiry, therefore, should be,  
 “ ‘ whether the defendant’s device is in substance and effect a  
 “ ‘ colorable evasion of the plaintiff’s contrivance, or whether it  
 “ ‘ is really a new, and substantially different, thing. If the  
 “ ‘ defendants have taken the same general plan, and applied it  
 “ ‘ for the same purpose, and produce the same effect, in sub-  
 “ ‘ stantially the same mode, although they have varied the form  
 “ ‘ of construction merely, it will still be substantially, in con-  
 “ ‘ templation of the patent law, the same thing. otherwise it  
 “ ‘ will not. Whether or not one machine is an infringement  
 “ ‘ of another, therefore, does not necessarily depend upon  
 “ ‘ whether the mechanical constructions are different. But the  
 “ ‘ question is, whether (whatever be the mechanical construc-  
 “ ‘ tion), the later machine contains the means or combination  
 “ ‘ found in the previous machine; whether, taking the struc-  
 “ ‘ ture as you find it, you see the new idea *completely* embodied  
 “ ‘ in it. In this case, the plaintiff’s patent is, substantially, for  
 “ ‘ a combination of parts before separately known and used in  
 “ ‘ machinery, and, since this is so, it is no infringement to use  
 “ ‘ any of the parts, where the combination itself is not used, or  
 “ ‘ any combination of some of its parts with another substan-  
 “ ‘ tially different from a third element, or part, described in the  
 “ ‘ specifications of plaintiff’s patent. But, if the defendants  
 “ ‘ have only varied their combination, by employing well  
 “ ‘ known mechanical substitutes for some one or more material  
 “ ‘ elements, or parts of the plaintiff’s combination, then there  
 “ ‘ is an infringement, for a mere known mechanical *substitute*  
 “ ‘ for a thing, for the purpose of determining the question in  
 “ ‘ issue, must be regarded as *the thing itself.*”

The Court upon applying the law here given will readily see

that appellant's apparatus is an infringement of the patented device. It is a mere copy, as close as is usually made by an infringer. It is a colorable evasion. It does nothing new, nothing different. It effects exactly the same result and by precisely the same mode of operation. Regarding the claims of the patents as setting forth operative machines, which they do, we find in appellant's apparatus or machine the same law of co-operation in its parts. This constitutes identity.

The case of *Hoyt vs. Horne*, 59 Offi. Gaz., which was decided by the Supreme Court, May 16, 1892, is instructive upon this question of infringement. The patent sued on was for a rag-engine, and the claim called for the circulation of the pulp in vertical planes which necessitated a horizontal location of a certain part. The defendant contended that there was no infringement because in his machine that part was not horizontal and the pulp was not circulated in vertical planes. But the Court, while recognizing this difference between the defendant's machine and the literal requirements of the claim sued on, proceeded to point out the object of this horizontal location in its action on the pulp and its relation with respect to the beater roll, and these were found to be the same in both devices. And notwithstanding the possible improvement in the change of defendant, the Court held that he had "succeeded in appropriating all that was of value" in the complainant's device, "namely, the beater roll, at the end of the tub, extending across its entire width, and the circulation of the pulp in vertical planes at the only point where such circulation is of value." The change, the Court said, was "obviously intended to evade the wording of the claims of the Hoyt patent," and cited *Winans vs. Denmead*, 15 How., 330.

These facts are very applicable to the case at bar. The cable pulley car of appellee's device is dropped down by the appellant upon the long fixed tracks, and this gives the opportunity to claim that it has no "secondary" tracks. But yet appellant has succeeded in appropriating the valuable feature of the patented device, namely, the second or chain pulley car properly connected with the first or cable pulley car to effect the results described; and notwithstanding the change, these parts having the same object and the same mode of operation and the same result in the two devices, it is as plain in this case as in *Hoyt vs. Horne*, that the change is "obviously intended to evade the wording of the claims" sued on. The Court will observe that appellant has not by its witness, attempted to show any difference in the mode of operation nor in the results of the two devices. These are admitted to be the same. The difference between them is plain and there is no contention in this regard. Nor is any attempt made to show that this difference

results in any change in the operation or result. But, to show the prior art, appellant has introduced a patent to William Eppelsheimer, No. 193,939, Aug. 7, 1877. This is found on pages 39-42, of Record. This patent is a complicated one, showing a device which is acknowledged to be in most respects an impractical one, and which the appellant's witness who designed the apparatus used by defendant says he would not have used. (Bell R.-X. Q's. 8-12, pages 34-35.) The testimony for appellant is made up in greater part of an explanation of this Eppelsheimer device. One part of it, namely, the automatic part, is utterly impractical. The other part, namely, the winding drum alone serves the appellant's object in introducing this prior patent, in so far that it shows appellee's patentee was not the first who thought of raising the weight when necessary. This is the only effect which this patent can have, and if we contended that our patent covered every means of raising the weight it would effectually answer such contention. But we do not assert this. We have no need to do so. That need would be pressing if appellant used a different way of raising the weight from either appellee, or the prior Eppelsheimer patent. *But appellant uses the same way of raising the weight that we do, namely, the movable secondary car carrying the chain pulley.* Eppelsheimer raises the weight by shortening the chain effected by winding it on a drum. Both appellee and appellant raise the weight by the action of the movable secondary car the pulley of which moves back under the chain.

The only argument which can be based on the prior Eppelsheimer patent, seeking to confine and limit our patent, is that it cannot be held to cover every means of raising the weight. It cannot and does not have the effect of limiting it to the relative positions of the movable cars. On this point it has no bearing. *Yet it is in this respect only that appellee's and appellant's devices differ.* They do not differ in the means of raising the weight; they are the same in that respect. It is sufficient, therefore, in order to fully dispose of any material effect which the prior Eppelsheimer patent may be supposed to have, to point out that both appellee's and appellant's devices differ from that prior patent *in precisely the same particulars.* There are not three ways of effecting the result. There are only two, namely: the winding up drum of Eppelsheimer, and the movable secondary cars of appellee and appellant. The relative position of the cars in the devices in suit are not affected by the Eppelsheimer patent, for that has no secondary car. If that patent showed a secondary car for raising the weight, and that car were placed *on top* of the first car, then our device, having its secondary car *under* the first car, would be a second arrangement, and appellant's device, having its

secondary car neither under nor on top of its first car, but back of it, would be a third arrangement, and each would differ from the other, and the change in position would be material, because made so by the prior or first device. But this is not the case. Eppelsheimer has no secondary car at all, and therefore it cannot make the only difference between the present devices material, for they differ only in the relative position of the cars, which is not affected by the Eppelsheimer patent.

The present devices differ therefore in a feature unaffected by the prior art.

This consideration showing that the devices of both appellant and appellee differ in the same particulars from the prior Eppelsheimer patent, effectually disposes of that contention of appellant's counsel that our device is a secondary combination and not entitled to equivalents. With respect to appellant's device our apparatus is a primary combination for the infringing mechanism has not made such change from ours as results in an essentially different construction and arrangement of parts working under a different co-operative law and resulting in a different idea of means, but has adopted practically the same arrangement which works under precisely the same co-operative law and is the same idea of means. These are the tests by which to distinguish the character of combinations. Appellee's apparatus made such changes from the prior art, but appellant's device has not introduced the same character of changes, and it results, as before stated, that there are not *three* different combinations, the two later ones differing from each other by the same character of change as the second differs from the first, but there are only two different combinations, the second and third being alike and differing from the first in the same particulars.

The second combination, namely, the appellee's device, is therefore primary with respect to the third, namely, the appellant's, and is indisputably entitled to equivalents. The appellee's device differs from the prior art in an essentially different arrangement and construction working under in a different co-operative law and resulting in a different idea of means. The appellant's device does not thus differ from appellee's apparatus but is one having the same construction, the same co-operative law, and is the same idea of means. The mere fact of a prior combination does not of itself render a subsequent combination secondary with respect to all following combinations, nor shut the door to the doctrine of equivalents. In *Inhouser vs. Buerk*, 101 U. S., at page 656, the Court allowed equivalents to just such a combination, and it may be stated as a general rule that any combination is infringed where precisely the same

elements or their equivalents are united under the same co-operative law.

Robinson on Patents, Sec. 922.

We assert, and we think, the Court will find from the testimony of witness Bell (R.-X. Q's. 8 to 16, page 35, of Record), that appellant's tension apparatus is a deliberate copy of our apparatus, with such changes embodied as are usually made by those who, while desirous of using the substance of the patented invention, hope to avoid responsibility by making immaterial and objectless alterations.

The fifth assignment of error cannot be supported. The objection of appellant's counsel to the question was not proper. The claims sued on are combination claims made up of several elements. The infringing device was an apparatus also made up of several elements. In order to show infringement it was necessary to show that these combinations were the same, and to do this it was essential to show identity of the several or corresponding elements of each. One of the essential characteristics of identity is identity of function.

Robinson on Patents, Sec 894.

Likewise one of the essential features of a mechanical equivalent is identity of function.

In *Imhaeuser* vs. *Buerk*, 101 U. S., 647, Justice Clifford, on page 656, says:

“Patentees of an invention consisting merely of a combination of old ingredients are entitled to equivalents, by which is meant that the patent in respect to each of the respective ingredients comprising the invention covers every other ingredient which, in the same arrangement of the parts, will perform the same function, if it was well known as a proper substitute for the one described in the specification at the date of the patent. Hence it follows that a party who merely substitutes another old ingredient for one of the ingredients of the patented combination is an infringer if the substitute performs the same function as the ingredient for which it is so substituted, and it appears that it was well known at the date of the patent that it was adaptable to that use.”

See also *Gill* vs. *Wells*, 22 Wallace, at page 28.

Therefore, whether appellee sought to show that appellant used the identical elements of the combinations sued on, or used such combinations with a mechanical equivalent substituted for one element thereof, it was proper to ask the witness as to the functions of these elements, in order to establish identity or mechanical equivalence. As in this case it is claimed by appellee that the second or chain pulley car of ap-

pellant's device is the same element as the movable chain pulley frame-work *E, I*, of the patent sued on, or with its connections is the mechanical equivalent thereof, it was not only proper and relevant but was necessary to ask the witness as to what difference, if any, there was in the functions of these elements in the two devices. That is the extent of the question objected to. (Page 20 of Record.)

Moreover, the objection itself shows an evident misunderstanding of the question, for that question does not imply nor seek to show that the claims sued on cover a function or mode of operation, and the question is in strict accord with the latter part of the objection which says "the only pertinent and relevant question being whether the defendant has used the combination of devices covered by either one of the claims of the patent sued on or not;" for such use could be shown only by showing identity of elements, either precisely or by mechanical equivalents, in either case requiring the showing of identity of function.

The sixth assignment of error means that the claims of the patent do not possess patentable novelty. The reason, according to counsel, why this essential feature does not exist is that the winding up of the weight when required being old, as shown by the prior patent to Eppelsheimer, it did not amount to invention to devise other means for effecting this result, such means, for example, as the secondary car of appellee and appellant. This is but the mere opinion of counsel founded upon another mere opinion that the result being old any mechanic could, without the exercise of invention adopt other means, such as the second or chain pulley car, to effect the same result.

To this opinion is opposed the presumption which every patent affords of its own validity in every particular.

Robinson on Patents, Sec. 1016. and cases cited.

The proof to overcome this presumption must be reliable and certain.

*Mesker vs. Thuener*, 42 Fed. Rep., 329.

*Osborne vs. Glazier*, 31 Fed. Rep., 402.

The question of invention is governed by no certain rule and is difficult of determination.

*McLain vs. Ortmeier*, 141 U. S., 419, (see pages 426-427).

Each case depends upon its own facts and circumstances.

*Butler vs. Bainbridge*, 29 Fed. Rep., 142.

In the case at bar, no anticipation is set up. The prior Eppelsheimer patent was introduced by counsel as is admitted,

not to show anticipation but only to show the prior art, (see middle of page 17 of Record). This patent is the only revelation of such prior art in this case. The remaining source from which to derive argument is the mere opinion of counsel that there would be no invention in devising other means of effecting the old result accomplished by the Eppelsheimer construction. This is not the reliable and certain proof required to invalidate a patent, and we feel confident that the Court cannot consider the apparatus of the patent sued on without arriving at the conclusion that considerable invention was shown in adding to the cable pulley car and non-adjustable weight of the common apparatus, a second cable pulley car or frame-work so connected with the first car that by its periodical retrogression it will renew the power of the weight as required. This is what is covered by the combinations of the two claims of the patent, and no error was made in sustaining them.

If there be found no error in any of the previous assignments, there was none in the seventh assignment, for the interlocutory decree, the injunction and the reference to the Master properly followed the conclusions reached by the Court and were in conformity to the pleadings.

Respectfully submitted.

WM. F. BOOTH,  
Solicitor and Counsel for Appellee.

